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September 23, 2021

Sam Abdellatif
Land and Redevelopment Programs Branch
U.S. Environmental Protection Agency, Region 2
290 Broadway, 25th. Floor
New York, NY 10007-1866

RE: Amerada Hess Corp- Former Port Reading Refinery
EPA ID No. NJD045445483
750 Cliff Road
Woodbridge Twp, Middlesex County
PI#: 006148

Comment Letter: Conceptual Site Model

Dear Mr. Abdellatif:

The New Jersey Department of Environmental Protection (Department) has completed a review of the Conceptual Site Model submitted March 29, 2021. The documents were submitted pursuant to the Site Remediation Reform Act (N.J.S.A. 58:10C-1 et seq.), the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C), and the NJDEP Technical Requirements for Site Remediation at N.J.A.C. 7:26E.

The Department has the following comments:

1. **Section 1.3.5, Historic fill:** The CSM includes numerous sections discussing historic fill and fill placement. All of the Department's prior comments to Hess regarding historic fill are applicable to the CSM. Note: Hess has previously noted that a historic fill evaluation will be submitted but has not been submitted at the time of review.

2. **Section 2.2, Section 6 and Section 3, Summary of Impacted Media: Soil:** Free and residual product must comply with Tech Regs, NJAC 7:26E-5.1(e).

3. **Section 5.0, Soils:** Hess is reminded that per NJAC 7:26E-4.2, if contamination extends beyond the property boundary, this needs to be delineated and addressed. The

Department is unsure whether this overall issue has been investigated by Hess. Please confirm if delineation off site has been conducted.

4. Section 5.3, Vapor Intrusion: The Department recalls providing feedback on a vapor intrusion study that Hess had conducted a 2020 summer sampling event and that the season sampled did not conform with the Site Remediation Program Vapor Intrusion Technical Guidance document. Furthermore, at the time of this review, The Department has not reviewed the vapor intrusion document submitted after the CSM. Therefore, The Department withholds comment and is neither agreeing or disagreeing with Hess's summary and evaluation of this pathway.

5. The CSM indicates that most site source and plume areas can be addressed through capping, institutional controls (deed restrictions, CEA), and Monitored Natural Attenuation mechanisms based on ground water use, vapor intrusion, surface water and ecological evaluation receptor evaluations. These may not be appropriate final remedies and further investigation is needed before a determination can be made. The CSM investigation goals should include delineation of sources of ground water impacts as well as migration paths and potential receptors. Natural Source Zone Depletion (NSZD) of free and residual NAPL is not an approved final remedy for any NAPL areas pursuant to the Tech Regs at N.J.A.C. 7:26E-5.1(e), the Remediation Standards at N.J.A.C. 7:26D-2.2, and NJDEP Technical Guidance (Monitored Natural Attenuation and LNAPL IRM).

6. Evaluations and data representations on figures focused on monitor well data: Conclusions regarding "limited detections" at the site do not reflect: 1) a complete remedial investigation and ecological evaluation, and 2) all site boring logs and temporary well data to date. Priorities based on LNAPL and elevated ground water COC results in the 2016 review of the 2015 SIR remain to be scheduled and implemented. Note: A site wide historic sample location figure was not included with the CSM.

7. The CSM includes a Class IIB aquifer classification discussion. Class IIB aquifers are described at N.J.A.C. 7:9C-1.5(e). The applicable ground water quality standards are the same as Class IIA aquifers (N.J.A.C. 7:9C-1.7(d)). Class IIB aquifer classifications are established through the rule making process at N.J.A.C. 7:9C-1.10, and there are currently no Class IIB aquifers in New Jersey. Unless Hess proposes to create a Class IIB aquifer proposal, it doesn't need to be in the CSM. The majority of the site is currently identified as a Class IIA aquifer, but parts of the site or aquifer units may meet Class IIIB criteria (Total Dissolved Solids (TDS) exceeds 5,000 mg/L or chloride exceeds 3,000 mg/L due to natural conditions). However, regardless of classification, remediation of the sources of ground water contamination is required to address the "adverse impact of contamination to ground water itself" (N.J.A.C. 7:26D-2.2(a)4.iv(1)). Receptor evaluations may support MNA of dissolved plumes associated with a source, or if additional remediation of ground water plumes is necessary.

8. The completion of the investigation and implemented remedial actions will show if there are multiple AOCs with distinct source areas/plumes. This could result in more than one CEA/WRA at the site.

9. Regional geology information and considerations are beneficial to the investigation. AOCs will still have to be investigated to delineate source areas and horizontal and vertical plume migration. Elevation information for boring 312 and SP-2, and FA-2 and FA-4, should be confirmed based on ground surface elevation changes at apparently flat areas.

10. The influence of the bulkhead on flow conditions will need additional information on the landward extent/construction of the bulkhead, type of fill behind the bulkhead, etc. TL-3 has a lower ground water elevation than surrounding wells as opposed to higher, so flow is happening in the vicinity of the bulkhead. The concept of a "zone of stagnation" is not accepted at this time.

11. The Site History portion focuses on the petroleum product received and processed to market products. It is recommended that additional "Site Histories" be provided, such as for: 1) Fuel Additives used (e.g., TEL, oxygenates, alcohols, detergents); 2) Refinery Waste and Wastewater Generation and Management; 3) Fire-Fighting Foams; 4) Chlorinated Solvents (e.g., Hess uses- maintenance, at Vapor Recovery Units, prior property uses); etc. This could help focus the areas where potential COCs would require different or additional analytical methods.

12. Please note, Remediation Standards were recently amended and include Migration to Ground Water SRS.

13. There may be a mistake in the date of the dike construction. Based on aerial photos it was between 1970 – 1972, not between 1966 – 1969. Please confirm the estimated date of construction.

14. Include boring logs for the cross sections as an appendix, and clarify the aquifer intervals for shallow, intermediate, and deep aquifer units that vary between text locations and figures.

15. Attachment A: The AOC list and RMU list is not consistent with the previously approved "AOC Groupings" and "AOC Grouping Table". Some AOCs are excluded from the appendix. Please revise Attachment A so that it matches the previously approved "AOC Groupings and "AOC Grouping Table".

16. Attachment B: HS-1 description should include a summary of the extent of impact to surface waters and wetlands (on-site, off-site), migration mitigation, and product recovery. Other historic spill information should include the data from ground water samples collected as part of a spill response. Please confirm there have been no releases between 2010 and sale of property, and the property sale date.

17. Attachment C: Additional figures are recommended and will help the Department in future reviews of documents:
    - Site-wide sample summary figure (soil borings, temporary wells, monitor wells)
    - Backwash lagoon is not shown, the location of the oily water lagoon, piping and treatment plant from schematic drawing needs to be reviewed and corrected
    - Additional contour maps (2018, 2020)
    - Site surface elevation/topography figure

- Current and historic discharge locations to surface water bodies
- Stilling well locations, gauge at Head of Smith Creek Basin
- Location of the Port Reading pipeline(s) through the site – connections with Administration Building sumps; location with respect to the AOC 10 interceptor trench and pathway through dike to the Head of Smith Creek Basin
- Soil borings and TWs with evidence of free or residual LNAPL.
- Soil borings with EPH, VOC, SVOC, etc. data from contaminated intervals. Not all soil samples are from boring intervals with potential contamination.
- Temporary well VOC, SVOC, metal, etc. data locations, isopleths.
- Free phase LNAPL locations from 1995 CMP.
- Isopleth figure ground water contours did not reflect 2019 contours

18. Attachment E- Table E-1: include well completion intervals bgs, msl, and a ground water elevation column.

19. Attachment F: limited to 2015-2020 data and limited to monitor wells only. Attachment F should include all data to date including temporary wells.

Nothing in this correspondence affects Hess' potential liability and obligations to the State Trustee, the Department, or its Commissioner regarding natural resource injuries, restoration, or damages.

If you have any questions regarding this matter, contact Julia Galayda at Julia.Galayda@dep.nj.gov.

Sincerely,

Gwen B Zervas

Gwen B. Zervas, P.E.
Section Chief

Cc: Julia Galayda, Case Manager
John Virgie, LSRP, Earth Systems
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